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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/791,996
Filing Date	March 3, 2004
First Named Inventor	Carmen Flosbach
Group Art Unit	1792
Examiner Name	Elena Tsoy
Total Number of Pages in This Submission	
Attorney Docket Number	FA1013 US DIV

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment / Response
  - ☐ Response & Amendment to Final Office Action, Response to Advisory Action and Request for Continued Examination
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below):*
  - Certificate of Mailing
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  - Receipt Card

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Potter Anderson & Corroon LLP
Signature	Hilmar L. Fricke
Printed Name	Hilmar L. Fricke
Date July 10, 2008	Reg. No. 22,384

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Typed or printed name	Ellen M. Godfrey		
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Application Number: 10/791,996
Filing Date: March 3, 2004
Applicant: Carmen Flosbach
Title: Coating Agents and a Process for the Preparation of Multi-Layer Coatings
Attorney Docket: FA1013 US DIV

- Transmittal Form
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

CARMON FLOSBACH, ET AL.

APPLICATION No.10/791,996 GROUP ART UNIT: 1792

FILED: MARCH 3, 2004 EXAMINER: E. TSOY

FOR: COATING AGENTS AND A PROCESS FOR THE PREPARATION OF MULTI-LAYER COATINGS ATTORNEY DOCKET NO.: FA 1013 US DIV

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Carmen Flosbach, declare that:

I am a citizen of the Federal Republic of Germany and reside at Marpe 41 D-42287, Wuppertal, Germany.

I am an employee of E.I. du Pont de Nemours and Company ("DuPont").

I received a Ph.D. in organic heterocyclic chemistry from the University of Wuppertal, FRG. I have worked for DuPont from 1990 to the present in the field of resin development.

I am a technical expert in the field of paint coatings, and I am familiar with the above-referenced patent application, as well as the June 2, 2008 Advisory Action, February 12, 2008 Final Office Action, September 10, 2007 Non-Final Office Action and all of the preceding office actions leading to the Request for Continued Examination filed July 11, 2007 and all the references cited in these office actions.

The following are my remarks:

1. The February 12, 2008 Final Office action stated that claims 11, 12, 16, and 19-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over

Duecoffre et al. (US Patent No. 6,063,448) hereinafter "Duecoffre". In the June 2, 2008 Advisory Action, the rejection based on Duecoffre was sustained.

2. Following experiments were conducted under my supervision that show the surprising superiority of the coating compositions of the subject application when compared to prior art compositions and in particular to the compositions of Duecoffre.

3. The following polymer compositions were prepared:

Polyester polyol (a) of Example 1 of the subject application, a non-aromatic polyester polyol within the scope of claims 11 and 12 of the polyester polyol (a) of these claims.

Polyester polyol (b) described in Example 1 of the subject application which is different from polyester polyol (a) above.

Comparison Polyester C described in Example 1 of Duecoffre having an acid value of 23, OH value (calculated) of 142, molecular mass (calculated) at acid value 23 of approximately 1800 and OH functionality of 4.5 which is outside of the scope of polyester polyol (a) of claim 11 and 12.

Comparison Polyester D described in Example 2 of Duecoffre having an acid value of 25, OH value (calculated) of 160, molecular mass (calculated) at acid value 25 of approximately 1000 and OH functionality of 2.8 which is outside of the scope of polyester polyol (a) of claim 11 and 12.

Comparison Acrylic/Polyester E described in Example 3 of Duecoffre.

Comparison Acrylic/Polyester F described in Example 4 of Duecoffre.

4. Six base compositions were formulated as shown in following Table I. Each of the compositions contained the same light stabilizer, UV absorber, leveling agent, and solvents in the same amounts as shown in Table I. Solvesso® 100 and 150 are solvents. Each base composition contained essentially the same amount of polymer. Base I only contained polyester polyol (b). Base II, **the invention,** contained a combination of polyester polyol (a) and polyester polyol (b). Comp. Base III contained polyester polyol (b) and Comparison Polyester C (Duecoffre, Ex. 1). Comp. Base IV contained polyester

(b) and Comparison Acrylic/Polyester D (Duecoffre, Ex. 2). Comp. Base V contained only Comparison Acrylic/Polyester E (Duecoffre, Ex. 3). Comp. Base VI contained only Comparison Acrylic/Polyester F (Duecoffre Ex. 4).

Table I

	Base I	Base II	Comp Base III	Comp Base IV	Comp Base V	Comp Base VI
Polyester polyol (a) of Example 1	--	30				
Polyester polyol (b)	70	40	40	40		
Comparison Polyester C			30			
Comparison Polyester D				26		
Comparison Acrylic/Polyester D					78	
Comparison Acrylic/Polyester E						73
Light stabilizer of the HALS type	1.4	1.4	1.4	1.4	1.4	1.4
UV absorber based on benztriazole	1.4	1.4	1.4	1.4	1.4	1.4
Commercial leveling agent (silicone oil)	0.5	0.5	0.5	0.5	0.5	0.5
Ethoxypropyl acetate	9	9	9	9	9	9
Butyl diglycol acetate	1	1	1	1	1	1
Solvesso® 100	10.2	10.2	10.2	10.2	10.2	10.2
Solvesso® 150	2	2	2	2	2	2
Butyl acetate	4.5	4.5	4.5	4.5	4.5	4.5

Comparison Polyester C is patent example 1 of US 6 063 448 Duecoffre et al.
Comparison Polyester D is patent example 2 of US 6 063 448 Duecoffre et al.
Comparison Acrylic/Polyester E is patent example 3 of US 6 063 448 Duecoffre et al.
Comparison Acrylic/Polyester F is patent example 4 of US 6 063 448 Duecoffre et al.

5. Table II shows the coating compositions that were prepared and tested. Cross-linker solutions I, II and III are described in the specification, page 9, lines 1-9 as Hardener solutions I-3. Cross-linker solution I contained hexamethylene diisocyanate isocyanurate in solvent. Cross-linker solution II contained

hexamethylene diisocyanate isocyanurate and isophorone diisocyanate isocyanurate in solvent and Cross-linker solution III contained hexamethylene diisocyanate isocyanurate and isophorone diisocyanate isocyanurate in a different ratio than in Cross-linker solution II in solvent. Coating compositions 1, 2 and 3 each contained 100 parts by wt. Base I [polyester polyol (b) only] and 50 parts by wt. of Cross-linker solution I, II and III, respectively and are not within the scope of claims 11 and 12. Coating Compositions 4 – 6 represent **the invention** and each contained 100 parts by weight of Base II (invention) [polyester polyol (a) and polyester polyol (b)] and 50 parts by wt. of Cross-linker solution I, II and III, respectively. Coating composition 7 contained 100 parts by weight of Base III [polyester polyol (b) and Duecoffre Ex. 1] and 50 parts by weight of Cross-linker solution I. Coating composition 8 contained 100 parts by weight of Base IV [polyester polyol (b) and Duecoffre Ex. 2] and 50 parts by weight of Cross-linker solution I. Coating composition 9 contained 100 parts by weight of Base V (Duecoffre Ex. 3 acrylic/polyester hybrid) and 50 parts by weight of Cross-linker I. Coating composition 10 contained 100 parts by weight of Base VI (Duecoffre Ex. 4 acrylic/polyester hybrid) and 50 parts by weight of Cross-linker solution I.

6. Each of the coating compositions 1-10 prepared above were spray applied to a metal substrate and dried and cured as taught in the specification, page 7, lines 24-31 and each of the coatings was tested as set forth in the specification, page 10, lines 4-22. The results of the tests are shown in following Table II:

Table II

Coating Comp.	1	2	3	4	5	6	7	8	9	10
100 parts by wt. Base	I	I	I	II	II	II	III	IV	V	VI
50 parts by wt. Cross-linker solution	I	II	III	I	II	III	I	I	I	I
Mar resistance	60	58	25	80	62	40	72	69	45	51
tree resin	37	38	45	45	53	56	35	35	43	42
pancreatin	25	25	43	39	46	50	35	37	39	43
sulfuric acid, 1%	40	40	49	44	50	50	39	41	47	45
Sulfuric acid, droplet test, 36%, 65°C	7/23	9/25	11/28	8/no etching	10/no etching	14/no etching	8/26	10/27	10/no etching	13/no etching
FAM-Test	4-5	4-5	4	0-1	0	0	4-5	5	2	2

7. Mar Resistance

The mar resistance of Coating Composition 4 (invention) was significantly better than Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) were substantially better.

The mar resistance of Coating Composition 4 (invention) was 80 in comparison to Coating Composition 7 (Duecoffre Ex 1) was 72 - an 11% improvement over Duecoffre.

The mar resistance of Coating Composition 4 (invention) was 80 in comparison to Coating Composition 8 (Duecoffre Ex 2) was 69 - an 16% improvement over Duecoffre.

The mar resistance of Coating Composition 4 (invention) was 80 in comparison to Coating Composition 9 (Duecoffre Ex 3) was 45 a 78% improvement over Duecoffre.

The mar resistance of Coating Composition 4 (invention) was 80 in comparison to Coating Composition 10 (Duecoffre Ex 1) was 51 a 57% improvement over Duecoffre.

8. Tree resin exposure

The tree resin exposure rating of Coating Composition 4 (invention) was significantly better than Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) also were significantly better.

The tree resin exposure rating of Coating Composition 4 (invention) was 45 in comparison to Coating Composition 7 (Duecoffre Ex 1) was 35 - a 29% improvement over Duecoffre.

The tree resin exposure rating of Coating Composition 4 (invention) was 45 in comparison to Coating Composition 8 (Duecoffre Ex 2) was 35 - a 29% improvement over Duecoffre.

The tree resin exposure rating of Coating Composition 4 (invention) was 35 in comparison to Coating Composition 9 (Duecoffre Ex 3) was 43 - a 5% improvement over Duecoffre.

The tree resin exposure rating of Coating Composition 4 (invention) was 45 in comparison to Coating Composition 10 (Duecoffre Ex. 4) was 42 - a 7% improvement over Duecoffre.

9. Pancreatin Exposure

The pancreatin exposure rating of Coating Composition 4 (invention) was significantly better than Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) also were significantly better.

The pancreatin exposure rating of Coating Composition 4 (invention) was 39 in comparison to Coating Composition 7 (Duecoffre Ex. 1) was 35 – an 11% improvement over Duecoffre.

The pancreatin exposure rating of Coating Composition 4 (invention) was 39 in comparison to Coating Composition 8 (Duecoffre Ex. 2) was 37– a 5% improvement over Duecoffre.

The pancreatin exposure rating of Coating Composition 4 (invention) was 39 in comparison to Coating Composition 9 (Duecoffre Ex. 3) was 39 – no improvement over Duecoffre.

The pancreatin exposure rating of Coating Composition 4 (invention) was 39 in comparison to Coating Composition 10 (Duecoffre Ex. 4) was 43 – a 9% improvement over the invention.

10. Sulfuric Acid (1%) Exposure

The sulfuric acid exposure rating of Coating Composition 4 (invention) was significantly better than Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) were similarly better.

The sulfuric acid exposure rating of Coating Composition 4 (invention) was 44 in comparison to Coating Composition 7 (Duecoffre Ex. 1) was 39 – a 13% improvement over Duecoffre.

The sulfuric acid exposure rating of Coating Composition 4 (invention) was 44 in comparison to Coating Composition 8 (Duecoffre Ex. 2) was 41– a 7% improvement over Duecoffre.

The sulfuric acid exposure rating of Coating Composition 4 (invention) was 44 in comparison to Coating Composition 9 (Duecoffre Ex. 3) was 47 – a 7% improvement over the invention.

The sulfuric acid exposure rating of Coating Composition 4 (invention) was 44 in comparison to Coating Composition 10 (Duecoffre Ex. 4) was 45 – a 2% improvement over the invention.

11. Sulfuric Acid Droplet Test

Coating Composition 4 (invention) had a value of 8 (the higher the number the greater the marking of the coating and no etching occurred in comparison to Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) were similarly better.

Coating Composition 4 (invention) had a value of 8 and no etching occurred in comparison to Coating Composition 7 (Duecoffre Ex. 1) which showed a value of 8 but etching at a value of 26. Coating Composition 8 (Duecoffre Ex. 2) showed a value of 10 and an etching value of 27. Coating Composition 9 (Duecoffre Ex. 3) showed a value of 10 with no etching and Coating Composition 10 (Duecoffre Ex. 4) showed a value of 13 with no etching. In all of the above comparisons, Coating Composition 4, (the invention) showed significantly better sulfuric values in regard to etching caused by sulfuric acid.

12. FAM-Test

The FAM Test shows resistance of a coating to solvents. Values range from 0 which shows no softening or swelling of the coating to 5 which shows complete softening of the coating.

Coating Composition 4 (invention) had a value of 0-1 which was significantly better than Coating Composition 1 containing only polyester polyol (b). The results for Coating Compositions 5 and 6 (invention) in comparison to Coating Compositions 2 and 3 prepared only with polyester polyol (b) were significantly better.

Coating Composition 4 (invention) had a value of 0-1 indicating no softening or swelling in comparison to Coating Composition 7 (Duecoffre Ex. 1) which had a value of 4-5 showing complete softening of the coating. Coating Composition 8 (Duecoffre Ex. 2) had a value of 5 also showing complete softening of the coating. Coating Composition 9 (Duecoffre Ex. 3) and Coating Composition 10 (Duecoffre Ex. 4) each had a value of 2 showing only slight softening of the coating.

13. According to the above tests, Coating compositions 4-6 (invention) had significantly better properties than Coating Composition 1-3 formed with a single polyester. In regard to Duecoffre, with the exception of the pancreatin exposure test which showed that Coating Compositions 7 and 8 had a slightly better rating that Coating Composition 4 (invention) and Coating Composition 9 has an equal rating to Coating Composition 4 and the 1% sulfuric acid test that showed Coating Compositions 9 and 10 had slightly better etch resistance that Coating Composition 4, I conclude that Coating Composition 4 (invention) according to the tests conducted herein showed surprisingly superior physical properties to all of the Coating Compositions 7-10 of Duecoffre. Based on these results and hybrid polyester acrylic polyol polymers prepared according to the teachings and Examples of Duecoffre do not form the same polymer compositions as those mixtures of polyester polyol and acrylic polymer compositions used to form the coating compositions of the invention as has been alleged by the Examiner and I conclude that the Examiner's position is incorrect.

14. I declare that all statements made herein are either based on my own knowledge and are true, or if based on information and belief are believed to be true. I also declare that all statements were made with knowledge that willful false statements, and the like, are punishable by either fine, or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and any such willful false statements may jeopardize the validity of either the patent application, or any patent issuing thereon.

By: Carmen Flosbach

Carmen Flosbach, Ph.D.

Dated: July 8th 2008